

#### ABSTRACT OF THE DISCLOSURE

An accelerator circuit is incorporated in a laser diode system for accelerating the turn-on operation of the laser diode independent of the control loop bandwidth of the laser diode system. The accelerator circuit provides a boost current to a compensation capacitor upon laser turn-on which compensation capacitor operates to establish the control loop bandwidth of the laser diode system. The boost current enables the control loop to increase the bias current to the laser diode quickly. When the laser diode reaches the desired operating point, the boost current is terminated and the control loop of the laser diode system resumes normal control of the bias current. In one embodiment, the accelerator circuit includes a timer circuit controlling a current source to implement open loop turn-on control. In another embodiment, the accelerator circuit includes a comparator circuit working in conjunction with an one-shot logic circuit for providing close loop control.